AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Appln. No. 09/862,600
Attorney Docket No.: Q64570

REMARKS

Claims 1-10 and 12-16 are all the claims pending in the application. By this Amendment, Applicant editorially amends claims 1, 9, and 15 and adds claim 17. Claim 17 is clearly supported throughout the specification *e.g.*, Fig. 3 and pages 7-9 of the specification.

Summary of the Office Action

Claims 1 and 4-6 are rejected under 35 U.S.C. § 102(e) and claims 2, 3, 7-10, and 12-16 are rejected under 35 U.S.C. § 103(a).

Claim Rejections under 35 U.S.C. § 102(e)

Claims 1 and 4-6 are rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,223,037 to Parkkila (hereinafter "Parkkila").

By way of an overview, this rejection was previously made of record in the first Office Action of November 11, 2003 and was withdrawn in the Final Office Action of May 5, 2004 (the Examiner found Applicant's arguments persuasive and rejected the claims over new grounds). The Examiner now again rejects claims 1 and 4-6 under the same grounds as in the first Office Action.

Applicant respectfully traverses this rejection and respectfully requests the Examiner to reconsider in view of the following comments. Of the rejected claims, only claim 1 is independent. Independent claim 1 recites a unique combination of features including:

> when signal intensity received by the terminal was approximately constant before the search, using one or more sequences each associated with a predetermined list of frequencies from all of said frequencies, and wherein when signal intensity received

> by the terminal is not approximately constant before the search, scanning all of said frequencies.

The Examiner asserts that claim 1 is directed to a method of connecting a terminal to a network and is anticipated by Parkkila (see page 3 of the office action). Specifically, the Examiner alleges that the measurement procedures on BCCH set forth in Parkkila, in col. 7, lines 48 to 67, are equivalent to the above-quoted features of claim 1 (*see* page 3 of the Office Action). Applicant respectfully disagrees. Applicant respectfully submits that this rejection is technically inaccurate for at least the following reasons.

Parkkila only teaches that once a connection is lost, only partial searches are performed at first, and only after the failure of these partial searches for a predetermined period of time is the full search performed. That is, Parkkila fails to teach or suggest performing periodic scanning using one or more sequences, if the signal intensity was constant and performing full searches when the signal intensity was not approximately constant before the search. In fact, in Parkkila, these searches of the most recently available channels will always be performed, whether the MS has left the area or entered a dead zone (e.g., an elevator).

In short, Parkkila fails to teach or suggest monitoring signal intensity to see if it is constant. The measurements that are performed in Parkkila are only to see if the signal intensity is above the path loss threshold (C1). In other words, Parkkila performs scanning of the previously received strongest carriers regardless of whether signal intensity was constant or not. Accordingly, Parkkila does not teach or suggest varying the type of searches to perform based on whether the intensity of the signal is constant before the search.

The Examiner alleges that col. 7, lines 48 to 67 of Parkkila disclose the unique conditions set forth in claim 1 (*see* page 3 of the Office Action). Col. 7, line 48 to col. 8, line 3 of Parkkila recite:

> [a]t step 312, mobile station M1 performs the loss of service measurement procedures on BCCH carriers that were included in the last BCCH carrier (BA) allocation received from network 100 before loss of service occurred, in order to maintain a measurement link with network 100. Mobile station M1 will continue to perform these measurements even though all BCCH carriers are received at a path loss greater than the path loss threshold for loss of service. The choice of which BCCH carriers to include in the loss of service measurements and the timing of the loss of service measurements may be the same as those of the reselection measurements performed in step 304. After each series of measurements of step 312 is completed, a determination is made at step 314, as to whether a BCCH carrier having a received signal level within the path loss criteria was detected in the loss of service measurements. If, at step 314, a determination is made that a BCCH carrier having a received signal level within the path loss criteria C1 was detected, the process moves to step 302, where the network of the detected BCCH carrier is selected, and steps 304-306 are repeated. Since the BCCH carrier detected at step 312 will have been detected from BCCH carriers of network 100, it will be a BCCH carrier of network 100, and network 100 will be selected again as it was upon initialization. (emphasis added).

That is, the above-noted paragraph simply discloses monitoring the last six strongest channels after the loss of service to see if a connection can be regained without initiating the complete network search process (col. 8, lines 4 to 9). If it cannot be regained, the search for all frequencies occurs. However, in Parkkila, there is no variation in the types of scans to perform based on whether the signal intensity is constant before the loss of service (col. 7, lines 35 to 48).

Therefore, "when signal intensity received by the terminal was approximately constant before the search, using one or more sequences each associated with a predetermined list of frequencies from all of said frequencies, and wherein when signal intensity received by the terminal is not approximately constant before the search, scanning all of said frequencies," is not suggested or taught by Parkkila, which lacks to satisfy the conditions set forth in claim 1. That is, in Parkkila, a partial search is performed first regardless of whether the intensity of the signal is constant before the search. For at least these exemplary reasons, Applicant respectfully submits that independent claim 1 patentably distinguishes from Parkkila. Applicant, therefore, respectfully requests the Examiner to reconsider and to withdraw this rejection of independent claim 1. Also, Applicant respectfully submits that claims 4-6 are allowable at least by virtue of their dependency on claim 1.

Claim Rejections under 35 U.S.C. § 103(a)

Claims 2, 3, 7-10, and 12-16 are rejected under 35 U.S.C. § 103(a). Applicant respectfully traverses this rejection.

Claims 9, 10, and 12-14

Claims 9, 10, and 12-14 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,343,070 to Klas et al. (hereinafter "Klas") in view of U.S. Patent No. 6,011,960 to Yamada et al. (hereinafter "Yamada") and now also in view of Parkkila.

Of these rejected claims, only claim 9 is independent. Independent claim 9 recites: "means for determining what type of scanning to perform based on whether signal intensity is constant or not before a periodic search of the radio communication network for a signal." The Examiner alleges that Yamada discloses the means for determining what type of scanning to perform based on the received intensity and Parkkila discloses performing the scanning based on the signal intensity being constant before a periodic search (*see* pages 5 and 6 of the Office Action). Applicant respectfully disagrees.

Applicant respectfully submits that Klas in view of Yamada and Parkkila, taken in any conceivable combination, fail to teach or suggest the unique features of claim 9 recited above. The Examiner acknowledges that Klas fails to teach or suggest the above-noted features of claim 9. Yamada and Parkkila fail to cure the deficient teachings of Klas.

Yamada, similar to Parkkila, only teaches performing the full scan when the initial scan fails. That is, Yamada teaches performing cache scan every sixty seconds and then a full scan every five minutes to look for the presence of the WTS control channel. The initial scan fails, when no WTS control channels are found (col. 13, lines 35 to 63). In short, Yamada teaches that the type of scanning to perform depends on whether the WTS control channel is found, whereas the signal strength is only used to select the next channel from the list of channels to be checked (col. 13, lines 35 to 63). That is, in Yamada, the signal strength is only used to select the next

channel for a check. Yamada teaches selecting a channel based on the signal strength, and the type of scanning to perform is based on the SIDs. In other words, in Yamada, the type of scanning to perform is determined by the presence or absence of the WTS control channel and not the signal intensity. Moreover, Yamada does not teach or suggest determining which type of scan to perform based on whether the signal intensity was constant or not.

Parkkila, as explained in greater detail above, does not cure the deficient teachings of Klas and Yamada. It too fails to teach or suggest performing various types of searches depending on whether the signal intensity is constant or not. In Parkkila, just like in Yamada, after the signal loss, first partial searches are performed, and then when the partial searches fail, full searches are performed.

Therefore, "means for determining what type of scanning to perform based on whether signal intensity is constant or not before a periodic search of the radio communication network for a signal," as set forth in claim 9 is not suggested or taught by the combined teachings of Klas, Yamada, and Parkkila, which lack determining the type of scanning to perform based on whether the received signal intensity is constant or not. For at least these exemplary reasons, Applicant respectfully submits that independent claim 9 is patentable over the combined teachings of Klas, Yamada, and Parkkila. Applicant, therefore, respectfully requests the Examiner to reconsider and withdraw this rejection of the independent claim 9. Also, Applicant respectfully submits that claims 10-14 are patentable at least by virtue of their dependency on claim 9.

Moreover, dependent claim 13 recites: "means for scanning all said frequencies when the intensity of the signal before the periodic search was varying." The Examiner alleges that Yamada discloses the unique features of this claim in col. 13, line 64 to col. 14, line 6 (*see* page 6 of the Office Action). Applicant respectfully disagrees.

Yamada's col. 13, line 64 to col. 14, line 6 recite:

> If the initial cache scan fails to find a valid WTS control channel (state 280) or a WTS which will accept its registration request, the PCS handset 50 commences an initial full scan, the details of which are shown in FIG. 8. With reference thereto, the initial full scan is similar to the initial cache scan, but is not limited to scanning only those channels on the cache list 92. Rather, the initial full scan scans the entire range of possible WTS control channels (state 300), which may be identified by a programmable value stored in the PCS handset 50. (emphasis added).

Indeed, the above recited passage, only discloses performing a full scan when the partial scan fails. That is, it clearly fails to teach or suggest performing various types of scans based on the signal intensity before the search. In Yamada, the WTS cache scan is performed when the cache scan timer times out. Yamada, however, does not teach or suggest that the scan will vary based on how the loss of signal occurred. In other words, Yamada is not concerned with whether the signal was lost because the handset entered a tunnel or because it has left the servicing cell. For at least this additional exemplary reason, dependent claim 13 is patentable over the combined teachings of Klas, Yamada, and Parkkila.

Claims 2 and 3

Claims 2 and 3 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Parkkila in view of U.S. Patent No. 5,701,585 to Kallin et al. (hereinafter "Kallin"). Applicant respectfully traverses this rejection with respect to the dependent upon claim 1, claims 2 and 3. Applicant has already demonstrated that Parkkila does not meet all the requirements of the independent claim 1.

Kallin is relied upon only for its teaching of ranking the cells according to their importance. That is, Kallin teaches that the order of the list in which the search is performed can be varied based on a present environment or on a prior knowledge (col. 4, lines 31 to 45). Kallin, however, fails to cure the deficiencies in Parkkila. Kallin only teaches that since measuring the signal strength and other characteristics of the cell is usually limited to a maximum number of 12, 20 or 32, it may be beneficial to pre-select these 12, 20 or 32 cells (col. 1, lines 20 to 50). The cells can be ranked by a quality of service and a type (col. 2, lines 8 to 16). In short, Kallin does not compensate for the above-identified deficiencies of Parkkila.

Together, the combined teachings of these three references would not have (and could not have) led the artisan of ordinary skill to have achieved the subject matter of claim 1. Since claims 2 and 3 are dependent upon claim 1, they are patentable at least by virtue of their dependency.

Claims 7 and 8

Claims 7 and 8 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Parkkila in view of U.S. Patent No. 6,418,318 to Bamburak et al. (hereinafter "Bamburak"). Applicant respectfully traverses this rejection with respect to the dependent upon claim 1, claims 7 and 8.

Applicant has already demonstrated that Parkkila does not meet all the requirements of independent claim 1.

Bamburak is relied upon only for its teaching of determining the last frequency band of the last service provider before the disconnection. That is, Bamburak teaches that after a power up, the mobile station checks the most recently used control channel to determine whether an optimal service provider is available on the channel. If this optimal service provider is not obtainable, then the MS searches through the frequency spectrum in a pre-determined order until an optimal or acceptable service provider is located (col. 3, lines 45 to 67). In short, Bamburak does not compensate for the above-identified deficiencies of Parkkila.

Together, the combined teachings of these references would not have (and could not have) led the artisan of ordinary skill to have achieved the subject matter of claim 1. Since claims 7 and 8 are dependent upon claim 1, they may be patentable at least by virtue of their dependency.

Claim 15

Claim 15 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Parkkila in view of U.S. Patent No. 6,282,419 to Findikli (hereinafter "Findikli"). Applicant respectfully traverses this rejection in view of the following comments.

Applicant respectfully traverses this rejection with respect to the dependent upon claim 1, claim 15. Applicant has already demonstrated that Parkkila does not meet all the requirements of independent claim 1. Findikli does not cure the deficient teachings of Parkkila.

The Examiner alleges that col. 6, lines 21-37 and col. 7, lines 5-29 of Findikli disclose the unique features of claim 15 (*see* page 11 of the Office Action).

Findikli, however, only discloses that if the CCH_FLAG is set (*i.e.*, a flag utilized to monitor control channel changes), then the value of a quick_trigger_control flag is set checked. The quick_trigger_control flag determines which event disables the quick trigger, partial or powerup. If it is determined that partial rescans control quick scanning, the control transfers to box 80; otherwise control transfers to box 86. In box 80, the quick_trigger_counter is incremented and a determination is then made (box 82) whether the value of the quick_trigger_counter equals a QUICK_TRIGGER_LIMIT. If such equivalence is attained (box 82), indicating that a sufficient number of the controlling events (partial rescans in this instance) have occurred, then the quick trigger flag 30 is disabled (box 84) and control transfers to box 86; otherwise, control reverts to box 86 (Figs. 3A and 3B; col. 7, lines 6 to 19).

Moreover, Findikli discloses a triggered partial scan is then performed (box 86) in an attempt to locate the aforementioned previously temporarily unavailable Acceptable SP and a determination is made whether such an Acceptable SP has been found (box 88) during the partial scan. If yes, the aforementioned quick trigger flag 30 is enabled (box 56), in order to allow quick scans to be used in the event this Acceptable SP is lost and an Unacceptable SP is found, and the MS 20 camps (box 58) (col. 7, lines 20 to 28).

Findikli, however, only teaches performing various searches when the control channel is changed. No where throughout Findikli's disclosure is it taught or suggested that the intensity of the signal received by the terminal, *i.e.*, whether it is constant or not before the search, plays a

role on what kind of searches to perform. In short, Findikli does not cure the deficient teachings of Parkkila.

Therefore, "when signal intensity received by the terminal was approximately constant before the search, using one or more sequences each associated with a predetermined list of frequencies from all of said frequencies, and wherein when signal intensity received by the terminal is not approximately constant before the search, scanning all of said frequencies," as set forth in claim 1, is not suggested or taught by the combined teachings of Parkkila and Findikli. Consequently, claim 15 is patentable at least by virtue of its dependency on claim 1.

Claim 16

Claim 16 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Yamada in view of Findikli and Parkkila. The Examiner rejected claim 16 as being unpatentable over the combined teachings of Yamada in view of Findikli. Applicant respectfully traverses this rejection, in view of the following comments.

Among a number of unique features, claim 16 recites: "wherein...when the signal intensity of the terminal is not approximately constant before the periodic network search, performing a full scanning of all the frequencies." The Examiner alleges that Findikli discloses these unique features of claim 16 in col. 7, lines 31 to 44 (*see* page 12 of the Office Action). Applicant respectfully disagrees.

Col. 7, lines 29 to 44 of Findikli recite:

> It should be understood that the CCH_FLAG, used to control excessive scanning if the MS 20 is not moving, is cleared or set to zero after the triggered powerup scan (box 102).

> The underlying reasoning is that if all the bands have been scanned, and no Acceptable SP has been found, then there is no need to try further partial scans until the MS 20 moves to another area, i.e., another control channel in another cell. Thus, if in box 76 it is determined that the CCH_FLAG has not been set, indicating the desire to prevent excessive scanning for a stationary MS 20, then control reverts back to box 60 for further processing as described hereinabove. Also, if in box 88 an Acceptable SP has not been found after the partial rescan (box 86), then control is also transferred back to box 60 for further processing. After a number of such failures to camp onto an Acceptable SP, the incrementing wideband_rescan_counter eventually equals RESCAN_LOOP (box 74). (emphasis added)

As is clear from the passage above, Findikli discloses that when the terminal 20 is not moving, then any type of scanning will be suspended until the terminal moves to another cell. Once the terminal moves to another cell, partial scans are performed. Accordingly, Findikli only discloses performing partial scans when the signal intensity is not approximately constant before the periodic network search. Findikli fails to teach or suggest performing full scans when the terminal moves to another cell.

Moreover, as detailed above with respect to claim 15, Findikli only teaches performing various searches when the control channel is changed. No where throughout Findikli's disclosure is it taught or suggested that the intensity of the signal, *i.e.*, whether it is constant or not before the search, plays a role on what kind of searches to perform. In Findikli, first partial searches are performed and then full scans are executed. In short, Findikli does not cure the deficient teachings of Yamada and Parkkila. For at least these exemplary reasons, claim 16 is

patentable over the combined teachings of Yamada, Parkkila, and Findikli. Therefore, Applicant respectfully requests the Examiner to withdraw this rejection of claim 16.

New Claims

In order to provide more varied protection, Applicant adds claim 17. Claim 17 is patentable at least by virtue of its dependency on claim 16.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly invited to contact the undersigned attorney at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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23373
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Date: November 28, 2005

Attorney Docket No.: Q64570